

NOVEMBER/DECEMBER 2025

**23PCA33 — ADVANCED MACHINE
LEARNING TECHNIQUES**

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.



1. What is Normalization?
2. Write any two differences between Vectors and Arrays in R.
3. Define the term Rule learners.
4. What is Classification?
5. Define the term Prediction.
6. Define the term Activation function in Artificial network.
7. What is Automated parameter tuning?
8. Name some performance measures in Classification.

9. What is SLP?
10. Define the term Structure damping in RNN.

SECTION B — ($5 \times 5 = 25$ marks)

Answer ALL the questions.

11. (a) Discuss on Data frames with example.

Or

- (b) Explain the steps to apply Machine learning.

12. (a) Discuss on kNN algorithm and its function.

Or

- (b) Describe the working of Naive Bayes algorithm with example.

13. (a) Explain the functioning of Linear Regression algorithm with example.

Or

- (b) Discuss on the Back propagation algorithm with example.

14. (a) Describe the way of improving models for better performance.

Or

- (b) Describe about Visualizing model performance tradeoffs.

15. (a) Expound the concept of Multilayer Perceptron Model.

Or

- (b) Describe about Traditional and Training LSTMs.

SECTION C — ($3 \times 10 = 30$ marks)

Answer any THREE questions.

16. Explain the fundamentals of Machine learning algorithms in detail.
17. Describe the method of Classification using Decision tree algorithm with example.
18. Explicate SVM classification method with example in detail.
19. Discuss on the method of finding and evaluating teen market segments using k-means Clustering.
20. Write a detailed note on RNN model.

